Genotyping fungal outbreaks and molecular epidemiology: The state of the art

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The processes driving infectious disease emergence and spread are reflected in their genetic diversity. Genotyping approaches are now an integral part of research in infectious disease epidemiology. Detailed individual- or species-level analyses of genetic diversity informs our understanding of disease transmission and the evolution and spread of antifungal resistance. Broader genomic analysis of microbial communities within the host is revealing important interactions between different fungal lineages, species and kingdoms, their response to interventions and their role in shaping the immune response to infection. This 'meet the expert' session will consider the scientific potential for high-throughput genotyping data in fungal disease epidemiology and the new opportunities offered by advances in genetic sequencing technology. We will consider the advantages and disadvantages of currently used genotyping techniques, the types of analyses that each platform supports, and the rapidly-developing opportunities that are afforded by new genotyping technologies. Our examples will be chosen to illustrate the spectrum of infectious fungi that impact humans and other animals.